

## UMBRELLA GIZMO

This application claims the benefit of 60/407,544, filed August 29, 2002.

### BACKGROUND - FIELD OF INVENTION

This invention relates to umbrella supports for riding lawnmowers..

### BACKGROUND - DESCRIPTION OF PRIOR ART

Over the years a number of umbrella support devices have been developed for holding umbrellas behind the operators of lawnmowers, tractors, wheelchairs and the like. Gainey (1990) in U.S. Pat. No. 4,927,117 discloses a system which mounts on the frame of a tractor behind the operator's seat. It lacks any provision for adjustment vertically or horizontally or for quick lowering for traversing under low hanging tree branches. Kennedy (1998) in U.S. Pat. No. 5,727,583 discloses a system which is magnetically attached to a surface. It lacks the features needed to quickly and easily position an umbrella for rider mower use. Davis (1998) in U.S. Pat. No. 5,836,327 discloses a system which clamps on the side or rear of the frame of a chair, and Diaz shows in U.S. Pat. No. 6,105,594 a device that is adjustable vertically from behind the operator. The devices of these two inventions would be difficult to adjust while steering a moving riding mower.

### OBJECTS AND ADVANTAGES

Several of the many objects and advantages of the present invention are to provide an improved umbrella support device for a riding lawnmower, which

- (1) provides for placement of the umbrella in front of the operator.
- (2) provides for unobstructed movement of the operator's hands while moving the mower's steering levers.
- (3) provides for the umbrella to rotate when it comes in contact with a stationary object while the mower is moving parallel to the stationary object.

- (4) provides for lowering the umbrella by pivoting the device forward and for raising the umbrella by pulling it to a vertical position.
- (5) provides for quick and easy removal of the umbrella from the device.
- 5 (6) provides for hooking a raised mower deck for those mowers which pivot to a vertical position for maintenance.
- (7) provides for a strong and durable device that can be economically manufactured.

## DRAWING FIGURES

10

In the drawings, closely related figures may have the same number but different alphabetic suffixes.

FIG. 1 shows in a side elevation view the device and an umbrella mounted on the body of a riding lawnmower just forward of the operator's seat.

15

FIG. 2 shows the device of the previous Fig. in a lowered position.

FIG. 3 shows a more detailed view of the device in Fig. 1.

FIG. 4 shows in a front elevation view the device mounted on the body of the riding lawnmower.

FIG. 5 shows the umbrella shaft spindle in a lowered position.

FIG. 6 shows the support post assembly and deck latch hook..

20

FIG. 7 shows a more detailed view of the device in Fig. 2 with the umbrella removed.

## REFERENCE NUMERALS IN DRAWINGS

25

10 riding lawnmower

20 the device and umbrella

30 support post assembly

40 offset frame

50 spindle

## SUMMARY

30

In accordance with the present invention the device comprises a support post, an offset frame and a spindle in which an umbrella is mounted.

## DISCLOSURE

A typical embodiment **20** of the gizmo of the present invention is illustrated in **FIGS. 1** and **2** showing it mounted on a lever steering type mid mounted deck **11** riding lawn mower **10** which is residing on surface **17**. In **FIG. 1** the umbrella **22** is open and in an overhead position for protecting the operator sitting in seat **15** from the sun and rain. In **FIG. 2** the umbrella **22** is open and in a lowered position. It is desirable to have the umbrella in the lowered position when the operator is mounting and dismounting the mower, and when traversing under low overhanging tree branches.

In **FIGS. 1, 2, 3, 4** and **7** support post's **30** base **32** is shown mounted on a horizontal surface **14** of the mower. The support post could be reconfigured so it could also be mounted on surfaces **12** or **13** if desired.

**FIGS. 1, 2, 3, 4** and **7** show offset frame **40** shaped so that the operator can move the mower steering levers **16A** and **16B** forward and aft without interference from the offset frame. This allows for the umbrella to be located overhead and just in front of the operator while not interfering with the operation of the steering levers. The offset frame is pivotally attached by axle **49** to the vertical section **34** of the support post at thru hole **39** shown in **FIG. 6**. Spring plungers **48** located in the sides **42A** and **42B** of the offset frame engage detents **36**, shown in **FIG. 6**, in the horizontal section of the support post when the umbrella is positioned overhead. A plurality of detents allows for the fine adjustment of the umbrella position. A stop **47** can be provided to limit the lowered position of the umbrella. Hook **38** is provided on some front mounted mower decks for holding the mower deck in a vertical position for maintenance.

**FIG. 4** shows spacer **44** joining sides **42A** and **42B** providing rigidity to the frame. Hub **46** joins the sides at the top. The lower end of the umbrella shaft **24** is attached to the umbrella height adjusting and rotating spindle **50** and rotationally resides in hub **46**. **FIG. 3** shows the height adjusting and rotating spindle in an upper position and in **FIG. 5** in a lower position. Keeper **52** locks the height adjusting and rotating spindle in a desired vertical position. Pin **54** keeps the wind from blowing the umbrella out of hub **46**.

**FIG. 7** shows offset frame **40** in the lowered position with the umbrella removed.